

1 CLAIMS

2 1. A system for determining context comprising:
3 one or more computer-readable media; and
4 a hierarchical tree structure resident on the media and comprising multiple
5 nodes each of which represent geographical divisions of the Earth.

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7 2. The system of claim 1, wherein the one or more computer-readable
8 media comprise one or more networks.

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10 3. The system of claim 1, wherein the nodes comprise political or
11 natural entities.

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13 4. The system of claim 3, wherein the political or natural entities
14 comprises one or more of the following: continents, countries, oceans, states,
15 counties and cities.

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17 5. The system of claim 1, wherein the nodes comprise infrastructure
18 entities.

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20 6. The system of claim 5, wherein the infrastructure entities comprise
21 one or more of the following: postal codes, area codes and time zones.

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23 7. The system of claim 1, wherein the nodes comprise public places.
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1 8. The system of claim 1, wherein the nodes comprise non-physical
2 entities.

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4 9. The system of claim 1, wherein the nodes comprise a plurality of
5 attributes, one of which comprising an entity identification (EID) that is unique to
6 the node.

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8 10. The system of claim 9, wherein one of the attributes comprises a
9 name attribute.

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11 11. The system of claim 9, wherein one of the attributes comprises a
12 neutral ground truth name attribute.

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14 12. The system of claim 9, wherein one of the attributes comprises a
15 geographic attribute.

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17 13. The system of claim 9, wherein one of the attributes comprises a
18 latitude/longitude attribute.

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20 14. The system of claim 9, wherein one of the attributes comprises a
21 relative importance index.

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23 15. The system of claim 9, wherein one of the attributes comprises a
24 contextual parent attribute.
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1 16. The system of claim 9, wherein one of the attributes comprises a
2 source attribute.

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4 17. The system of claim 9, wherein one of the attributes comprises a
5 start/end dates attribute.

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7 18. The system of claim 9, wherein one of the attributes comprises a
8 modification date attribute.

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10 19. The system of claim 9, wherein one of the attributes comprises a
11 status attribute.

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13 20. The system of claim 1, wherein the tree structure does not include
14 any nodal associations with businesses or services.

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16 21. The system of claim 1, wherein the computer-readable media is
17 embodied on a mobile computing device.

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19 22. The system of claim 1, wherein the computer-readable media is
20 embodied on a handheld mobile computing device.

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22 23. The system of claim 1, wherein the computer-readable media is
23 accessible to a mobile computing device via the Internet.

1 ~~24.~~ A system for determining context comprising:
2 one or more computer-readable media;
3 a first hierarchical tree structure having multiple nodes associated with a
4 first context;
5 at least one second hierarchical tree structure having multiple nodes
6 associated with a second context; and
7 at least one node from the at least one second hierarchical tree structure
8 being linked with one node on the first hierarchical tree structure by a link that is
9 configured to enable a complete context to be derived from the first and second
10 contexts.

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12 25. The system of claim 24, wherein the first and second contexts
13 comprise a location context.

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15 26. The system of claim 24, wherein the nodes of the first hierarchical
16 tree structure comprise geographical divisions of the Earth.

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18 27. The system of claim 26, wherein the nodes of the at least one second
19 hierarchical tree structure comprise physical and/or logical entities.

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21 28. The system of claim 24, wherein the first and the at least one second
22 hierarchical tree structures comprise a plurality of attributes, two of which
23 comprising:

24 an identification that is unique to a node; and
25 information that pertains to the tree with which the node is associated.

1 35. The system of claim 24, wherein the computer-readable media is
2 embodied a handheld mobile computing device.

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4 36. The system of claim 24, wherein the computer-readable media is
5 accessible to a computing device via the Internet.

6
7 37. A computer-implemented method of determining context
8 comprising:

9 accessing first and one or more second hierarchical tree structures that are
10 resident on one or more computer-readable media, each tree structure having
11 multiple nodes, the nodes of the first hierarchical tree structure being associated
12 with a first context, the nodes of the one or more second hierarchical tree
13 structures being associated with a second context; and

14 traversing multiple nodes of at least one of the tree structures to derive a
15 context.

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17 38. The computer-implemented method of claim 37, wherein the
18 traversing derives a location context.

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20 39. The computer-implemented method of claim 37, wherein the nodes
21 of the first hierarchical tree comprise geographical divisions of the Earth.
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1 **40.** The computer-implemented method of claim 39, wherein the nodes
2 of the one or more second hierarchical tree comprise physical and/or logical
3 entities.

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5 **41.** The computer-implemented method of claim 37, wherein the
6 traversing comprises traversing at least one node on each tree to derive the
7 context.

8
9 **42.** The computer-implemented method of claim 41, wherein the
10 context comprises a location.

11
12 **43.** The computer-implemented method of claim 37, wherein the first
13 and one or more second hierarchical tree structures comprise at least one node pair
14 that is linked.

15
16 **44.** The computer-implemented method of claim 37, wherein at least
17 one of the nodes of the one or more second hierarchical tree structures has a good
18 or a service associated with it, and wherein the traversing comprises locating a
19 good or a service associated with a node and consuming the good or service.

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21 **45.** The computer-implemented method of claim 37, wherein the
22 accessing of the first and the one or more second hierarchical tree structures
23 comprises accessing tree structures that are locally available on a mobile
24 computing device.
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1 46. The computer-implemented method of claim 37, wherein the
2 accessing of the first and the one or more second hierarchical tree structures
3 comprises accessing at least one of the trees via a network medium.
4

5 47. The computer-implemented method of claim 37, wherein the
6 accessing of the first and the one or more second hierarchical tree structures
7 comprises accessing at least one of the trees via the Internet.
8

9 48. One or more computer-readable media having computer-readable
10 instructions thereon which, when executed by a computing device, cause the
11 computing device to:

12 access first and second hierarchical tree structures, each tree structure
13 having multiple nodes, the nodes of the first hierarchical tree structure being
14 associated with a first location context, the nodes of the second hierarchical tree
15 structure being associated with a second location context, at least one node of the
16 second hierarchical tree structure being linked with a node of the first hierarchical
17 tree structure; and

18 traverse at least one node of each tree structure to derive a location context,
19 at least one node in a traversal path that leads to a root node of the second
20 hierarchical tree structure being linked with a node of the first hierarchical tree
21 structure.
22

23 49. The one or more computer-readable media of claim 48, wherein the
24 computing device automatically determines its location context.
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1 50. The one or more computer-readable media of claim 48, wherein the
2 computing device is a handheld computing device.

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4 51. The one or more computer-readable media of claim 48, wherein the
5 computing device is a mobile computing device.

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7 52. The one or more computer-readable media of claim 48, wherein the
8 computing device is a desktop device.

9
10 53. The one or more computer-readable media of claim 48, wherein the
11 computing device is a handheld computing device that automatically determines
12 its location context.

13
14 54. A computer-implemented method of locating goods or services
15 comprising:

16 defining a hierarchical tree structure comprising multiple nodes that each
17 can define a physical or logical entity;

18 associating one or more goods or services with one or more of the nodes;

19 and

20 traversing one or more of the multiple nodes to discover a good or service.
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1 55. The computer-implemented method of claim 54 further comprising
2 linking one or more of the multiple nodes with another hierarchical tree structure
3 that contains multiple nodes that each represent a geographical division of the
4 Earth.

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6 56. The computer-implemented method of claim 55, wherein the
7 traversing enables a current location to be determined.

8
9 ~~57.~~ One or more computer-readable having computer-readable
10 instructions thereon which, when executed by a computing device, cause the
11 computing device to:

12 define a hierarchical tree structure comprising multiple nodes that each can
13 define a physical or logical entity;

14 associate one or more goods or services with one or more of the nodes; and

15 traverse one or more of the multiple nodes to discover a good or service.

16
17 ~~58.~~ A computer-implemented method of building context-aware data
18 structures comprising:

19 receiving input from a source that specifies information pertaining to
20 physical and/or logical entities;

21 processing the information to define a hierarchical tree structure having a
22 context, the tree structure comprising multiple nodes each of which represent a
23 separate physical or logical entity;

24 linking at least one of the multiple nodes to a node of another tree structure
25 having a context and multiple nodes that represent physical and/or logical entities,

1 the tree structures being configured for traversal in a manner that enables
2 context to be derived from one or more of the nodes.

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4 59. The computer-implemented method of claim 58, wherein the
5 context that is derived comprises a location context.

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7 60. One or more computer-readable media having computer-readable
8 instructions thereon which, when executed by a computing device, cause the
9 computing device to implement the method of claim 58.

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